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Hong et al.

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(54) **DATA TRANSMISSION APPARATUS AND METHOD**

(75) Inventors: **Jin Cheol Hong; Hong Sung Song,** both of Kyungsangbuk-do (KR)

(73) Assignee: **LG. Philips LCD Co., Ltd.,** Seoul (KR)

(*) Notice: This patent issued on a continued prosecution application filed under 37 CFR 1.53(d), and is subject to the twenty year patent term provisions of 35 U.S.C. 154(a)(2).

Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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Primary Examiner—Richard Hjerpe
Assistant Examiner—Ali A. Zamani
(74) *Attorney, Agent, or Firm*—Long Aldridge & Norman, LLP

(57) **ABSTRACT**

A data transmission apparatus a data transmitter selectively inverting data and transmitting the selectively inverted data. A data receiver selectively re-inverts the selectively inverted data from the data transmitter and reconstructs the inverted data into the original data. The inversion operation of the data transmitter and the data receiver is controlled by a mode controller. The mode controller receives data having a number of bits along with a clock signal to detect a number of transitions every period of the clock signal, and controls driving modes of the data transmitter and the data receiver in accordance with the detected number of transitions.

41 Claims, 9 Drawing Sheets